

How will the project work?

- The plants and soil on top of the green roof will absorb much of the rain water that would otherwise run directly into the storm sewer system or into a stream. The combination of waterproof membranes underneath the green roof acts as a barrier and protects the shed roof from water damage. Any remaining water that does not get absorbed will go down a gutter and will flow into the rain garden area. The plants will also provide food and shelter to small birds and butterflies.

- The rain garden and the permeable pavers have 6 feet of gravel underneath them along with porous pipes and chambers to retain stormwater runoff from the parking area. The system can accommodate a 2.5 inch rain event and has an even flow pipe for runoff from heavier rainfall.

- The overall impact of the system of integrated work will address both water quality and quantity in our watersheds by retaining and infiltrating a significant amount of the stormwater runoff.

Demonstrating Innovation Project is located in the parking area at 8739 Lee Highway, Fairfax, Virginia

Visitors are welcomed at anytime

More project and resource information are available online at www.fairfaxcounty.gov/providence/dcr_project_update.htm

Demonstrating Innovation was funded through a grant attained in 2004 from the Virginia Department of Conservation & Recreation

Project Partners ~

- ▶ *Merrifield Garden Center*
- ▶ *Balcon & Old Castle Co.*
- ▶ *Mulch Solutions*
- ▶ *Northern Virginia Soil and Water Conservation District*
- ▶ *Prospect Waterproofing Company of Sterling, Virginia*
- ▶ *Office of the Providence District Supervisor, Linda Q. Smyth*
- ▶ *Department of Public Works & Environmental Services, Fairfax County*
 - *Division of Planning & Design*
 - *Division of Maintenance & Stormwater Management*
 - *Permits Division*
 - *Site Plan Review*
- ▶ *Fire Station 30 – Merrifield, Fairfax County Fire and Rescue*
- ▶ *Office of Public Affairs, Fairfax County*
- ▶ *Print Center, Fairfax County*

Resource:

Environmental Excellence for Fairfax County: A 20-Year Vision
Low Impact Development as a Watershed Tool
Low Impact Development: Controlling Runoffs at its Source
DCR Grant Proposal: Demonstrating Innovation



***Demonstrating Innovation:
A Stormwater Retrofit Project at
the Providence Supervisor's Office***

Project objective was to create a highly visible and demonstrative; educational and easy to duplicate; best management practices using low impact development concepts and techniques; and to advance the Fairfax County Board of Supervisors' vision for environmental excellence.

County of Fairfax, Virginia

To protect and enrich the quality of life for the people, neighborhoods and diverse communities of Fairfax County



Sedum plants: Green Roof Project – July 2005

Green Roof Project:

The green roof is a 240 square foot space constructed of a waterproof membrane, growth media, and plants. This roof can retain approximately 423 gallons of water per hour allowing for 70% of water retention. The green roof will also create new green space to counteract the heat island effects. Green roofs are becoming popular as they can, reportedly, cool a building by as much as 7 degrees.



View of the excavated parking area for the Retention Rain Garden and Permeable Pavers Projects during two rain storms – July 2005

Retention Rain Garden Project:

The rain garden is approximately 680 square feet and has three main functions:

1. Collect runoff from the surrounding impervious surfaces allowing for slower infiltration into the soil.
2. Remove pollutants to prevent them from entering the watershed thereby improving water quality.
3. Decrease water flow into the storm sewer system and streams to improve stream stability and assist in flood control.



View of the Retention Rain Garden Project – October 2005 – Conceptual Design (below)



Conceptual Diagram, created during the grant proposal



View of the completed Permeable Pavers Project

Permeable Pavers Project:

The permeable pavers have replaced the existing pavement for nine parking spaces and will act similarly to the rain garden allowing runoff to slowly seep into the surrounding soil. Water coming out of the project areas will be evaluated for the improvement in water quality and monitored for water quantity. The project site also includes a secured monitoring area.



Native plants: Retention Rain Garden Project – October 2005